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NUCLEAR WASTE

Institutional Relations Under the Nuclear Waste Policy Act of 1982

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The Honorable J. Bennett Johnston
Chairman, Committee on Energy
and Natural Resources
United States Senate

The Honorable James A. McClure
Ranking Minority Member
Committee on Energy and Natural Resources
United States Senate

This report responds to part of your September 19, 1985, request. It describes relations between the Department of Energy and states and Indian tribes affected by the ongoing nuclear waste program implemented under the Nuclear Waste Policy Act of 1982. The report also includes recommendations to the Secretary of Energy directed toward improving these relations and the overall credibility of the program.

We are sending copies of this report to the Director, Office of Management and Budget; other interested committees and members of the Congress; the Secretary of Energy; and affected states and Indian tribes. Copies will be made available to others upon request.

This work was performed under the direction of Mr. Keith Fultz, Associate Director. Other major contributors are listed in appendix II.

J. Dexter Peach

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Assistant Comptroller General

Executive Summary

Purpose

While considering passage of the Nuclear Waste Policy Act of 1982, the Congress recognized that the siting of a permanent nuclear waste facility would be controversial and that the involvement of affected states and Indian tribes would be essential to the successful implementation of the program. In response to a request from the Chairman and Ranking Minority Member of the Senate Energy and Natural Resources Committee, GAO assessed the Department of Energy's (DOE) efforts to involve states and Indian tribes in the waste program.

Background

The act requires DOE to construct the nation's first permanent deep underground nuclear waste repository and established a separate office within DOE to administer the program. Total life-cycle costs—estimated to be between $24 billion to $32 billion—are to be paid for by the owners and generators of nuclear waste.

The act, which also makes DOE responsible for planning and proposing a second repository and a monitored retrievable storage facility, stipulates that DOE is to consult and cooperate with states and Indian tribes to promote their confidence in the safety of the disposal program and provides for formal agreements to be negotiated with affected states and tribes. The act also permits a state or tribe to disapprove a site selection within its boundaries. Such disapproval can be overturned only by both Houses of the Congress. (See ch. 1.)

Results in Brief

States and Indian tribes are concerned about the potential environmental and socioeconomic impacts of siting a repository for nuclear waste in their region. Further, states and tribes affected by the first repository program and the state of Tennessee, where the site for the proposed monitored retrievable storage facility is located, believe that DOE has not allowed them to participate in the program to the extent intended by the act. States affected by the second repository had similar concerns, but the site-specific activities of that program were indefinitely postponed in May 1986. DOE, however, believes that a repository can be safely constructed and operated and that, after a slow start, it is doing a good job of involving states and tribes.

These differing views have led to lawsuits and strained relations between DOE and the affected states and tribes. Representatives of the states and tribes involved in the first repository program say that if the program's credibility does not improve, they will continue to initiate lawsuits and can be expected to exercise their right to disapprove the

final site selection, forcing the courts, and perhaps ultimately the Congress, to judge whether DOE has adequately ensured the safe disposal of nuclear waste. Such actions could substantially delay the program and increase costs.

GAO believes that some conflict is likely to continue between the states and tribes and DOE because of their different perspectives and objectives and because of the controversial nature of the program. However, DOE can take steps to improve its efforts to involve states and tribes and thereby lessen their concerns about the amount of participation they have in the program as well as improve the overall credibility of the program.

Principal Findings

States' And Tribes' Views

The states and tribes involved in the waste program are not convinced that a geologic repository can safely withstand groundwater seepage and other natural phenomena for thousands of years and prevent radiation from escaping to the surrounding environment. (See ch. 2.)

First repository states and tribes are also unhappy about their role in the program. They describe it as one of commenting on predetermined program documents with little influence on formal decisions. As evidence of their lack of impact on the program, they list a number of program areas with which they generally disagree. Foremost among these, they say, is an unfair siting process used to identify first repository sites for detailed study.

States and tribes also say that DOE's efforts to consult and cooperate with them have been deficient. For example, they say that DOE has not yet adequately defined what consultation and cooperation means and that they should be allowed to participate in all of DOE's internal coordinating committees' meetings, not just the three they now attend.

DOE Efforts to Involve States and Tribes

DOE officials stated that initially they were slow to involve states and tribes because of the time it took to meet a number of first-year program milestones and to establish a new organization to meet the act's objectives. DOE officials say they have come to appreciate the input of

affected states and tribes and cite numerous steps they have taken over the past 2 years to involve states and tribes. These steps include

- holding periodic meetings and using other means to inform and obtain input from states and tribes on program activities;
- issuing detailed comment response documents to inform states and tribes about the disposition of their comments on program documents;
- allowing states and tribes to participate in internal DOE management groups considering environmental issues and other matters relevant to states and tribes; and
- using an independent peer group to review DOE's decision-aiding methodology for repository site selection.

DOE officials also say that attempts to negotiate a broad-based formal agreement with states and tribes so far have been unsuccessful because of controversial issues like federal liability, and because states and tribes are reluctant to agree with DOE concerning nuclear waste issues. (See ch. 3.)

Recommendations

GAO recommends that DOE take steps to improve its efforts to involve states and Indian tribes and to enhance the overall credibility of the program. These include (1) allowing states and tribes more participation within internal coordinating groups, (2) using independent advisory groups to help monitor the program, (3) adopting a strategy of negotiating incremental agreements with the states and tribes to help resolve controversial issues, and (4) better defining consultation and cooperation.

DOE, State, and Indian Tribe Comments

DOE concurred unreservedly with GAO's recommendation to take steps to improve efforts to involve affected states and Indian tribes in the nuclear waste program. In addition, DOE stated that it was taking actions in response to each of the four specific steps GAO recommended. (See p. 53.)

Twenty-four states and three Indian tribes were asked to comment on a draft of this report. Generally, the 11 states and 3 Indian tribes that formally commented stated that the report was an objective and factual presentation of the conditions that prevail between the states, Indian tribes, and DOE. Two of the three states where first repository sites are being considered reiterated their position that the only effective action DOE could take to improve relations would be to start the first repository

siting process over. The third state commented that DOE is implementing a program that is flawed and will not result in the safe disposal of nuclear waste. (See pp. 54-57.)

DOE, state, and Indian tribe comments have been incorporated into the report where appropriate. Because of their length, the comments have not been reproduced in this report but are available upon request from GAO.

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Abbreviations

AEC	Atomic Energy Commission
DOE	Department of Energy
ERDA	Energy Research and Development Administration
GAO	General Accounting Office
MRS	monitored retrievable storage
NAS	National Academy of Sciences
NRC	Nuclear Regulatory Commission
OCRWM	Office of Civilian Radioactive Waste Management
WIPP	Waste Isolation Pilot Project

Introduction

High-level nuclear waste is produced when electricity is generated from a nuclear reactor and is also accumulated from nuclear weapons production. It is highly radioactive and toxic and must be isolated from the environment for thousands of years. Although such waste has been produced since the 1940's, no permanent disposal method or site has yet been developed. Currently, defense-related waste is stored primarily in near-ground level tanks or underground bins, and commercially produced waste, known as spent fuel, is generally stored in large pools of water at reactor sites. The Congress addressed the problem of permanent disposal in the Nuclear Waste Policy Act of 1982,[1] which requires the Department of Energy (DOE) to develop repositories for the long-term disposal of nuclear waste.

The act provides for affected states and tribes to participate in all aspects of the repository program, including the siting and construction of the nation's first repository, and provides them with financial assistance for that purpose. The act also requires DOE to "consult and cooperate" with states and Indian tribes to resolve concerns about public health, safety, and environmental and economic impacts. On September 19, 1985, following a hearing before the Senate Energy and Natural Resources Committee at which state and tribal officials voiced strong concerns about their participation in the program, the Chairman and the Ranking Minority Member requested us to examine DOE's efforts to involve states and tribes in its program to site and construct a repository.

Previous Efforts to Develop Nuclear Waste Disposal Sites Unsuccessful or Incomplete

Since 1957 when the disposal of high-level waste in underground geologic formations was first suggested by the National Academy of Sciences (NAS), DOE and its predecessor agencies have made several inadequate attempts to identify and develop geologic disposal sites for defense and commercial nuclear wastes. According to a 1979 GAO report and a 1985 Office of Technology Assessment study,[2] the lack of resources and public and political opposition played key roles in their lack of success, as described below.

[1]Public Law 97-425, 96 Stat. 2201, 42 U.S.C. 10101 et seq.

[2]The Nation's Nuclear Waste—Proposals for Organization and Siting (EMD-79-77, June 21, 1979); Managing the Nation's Commercial High-Level Radioactive Waste, Office of Technology Assessment (OTA-0-171, March 1985).

Defense High-Level Waste Programs

From the 1960's until 1972, the Atomic Energy Commission (AEC) investigated bedrock formations underlying its Savannah River plant in South Carolina as a potential repository for the liquid high-level waste produced by the Savannah River plant's defense activities and temporarily stored in steel tanks on the reservation. In 1972, however, this investigation was discontinued because of (1) opposition from Georgia, which borders the reservation, (2) the potential for contamination of a large aquifer lying beneath the plant, and (3) a decision to investigate surface storage of defense waste.

Savannah River was not the only site considered for the disposal of defense-produced high-level waste. In 1965 AEC placed defense waste in an abandoned salt mine near Lyons, Kansas, to examine the effects of radiation and heat on salt rock. In June 1970 AEC announced that it would build a federal defense waste repository at the Lyons mine if further studies confirmed the site's suitability. Later investigations showed that water could enter the Lyons mine from numerous oil and gas exploration holes and salt mines nearby. Before the technical issues could be resolved, the project was cancelled in 1972 because of adverse public and political reaction.

The abandonment of the Lyons site left the country without a defense nuclear waste repository site. To fill that need, AEC officials decided in 1974 to construct the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico, to dispose of defense transuranic waste.[3] State and local officials initially supported WIPP in the economically depressed area. Then in 1977, the Energy Research and Development Administration (ERDA) made the first of several changes in the scope and mission of WIPP.[4] First, it considered the emplacement of defense high-level waste at the facility. Relations were strained and local opposition arose over the increased risks associated with the inclusion of high-level waste. Second, during 1978 and 1979, the Congress rejected a proposal for Nuclear Regulatory Commission (NRC) licensing and state veto powers over the construction of WIPP, which ERDA had promised New Mexico officials.

According to a former New Mexico Deputy Attorney General, the scope of state participation in WIPP subsequently became an issue between New Mexico and the federal government. ERDA initially contemplated a

[3]Transuranic waste is predominately characterized by medium energy radiation and slow decay. It consists of elements heavier than uranium, including the man-made, long-lived radioactive elements.

[4]On January 19, 1975, the part of the AEC responsible for radioactive waste became part of ERDA, which, in turn, became DOE on October 1, 1977.

very narrow range of interactions limited to the site and project itself. New Mexico took a more expansive view that required the federal government to address off-site state concerns, such as transportation monitoring. In 1980 and 1981 DOE and the state reached agreement on monetary payments to the state for off-site concerns, and meaningful state involvement in the project as defined under a formal agreement. The project is being constructed as an unlicensed defense facility primarily for disposal of transuranic waste and limited defense high-level waste research.

Commercial High-Level Waste Program

In 1975 ERDA initiated the National Waste Terminal Storage Program to address the need to develop and locate a repository for commercial high-level waste. The program was to include a survey of underground rock formations in 36 states and was designed to lead to the construction of six pilot repositories by the year 2000. The responses of state officials to the program varied, but some made it difficult for ERDA to explore potential locations. In particular, according to DOE officials, DOE did not conduct site tests in the large Salina salt basin because Michigan opposed any site work conducted in connection with a future waste repository. By 1980 DOE was undertaking active site evaluation research only in Louisiana, Mississippi, Texas, and Utah, and on two federally owned areas in Nevada and Washington.

The Nuclear Waste Policy Act of 1982

In passing the Nuclear Waste Policy Act of 1982, the Congress found that "... federal efforts during the previous 30 years to devise a permanent solution to the problems of civilian radioactive waste disposal had not been adequate." The act represents a congressionally mandated attempt to resolve the technical and institutional issues involving the disposal of high-level waste. To provide for the permanent disposal of high-level radioactive waste, the act established

- a definite federal policy and responsibility for the permanent disposal of these materials;[5]
- a schedule for the siting of two geologic repositories and the disposal of high-level waste by January 31, 1998;

[5]As provided for in the act, the President advised the Secretary of Energy in April 1985 that DOE should dispose of defense high-level nuclear waste and commercial waste in the same repository because of cost savings.

- the Nuclear Waste Fund, composed of payments made by the owners and generators of radioactive waste to pay the costs of carrying out the activities relating to the disposal of such wastes; and
- provisions for state and Indian tribe involvement with the federal government in the program.

The act established a siting process for the first repository, which includes (1) the development of specific siting guidelines to identify criteria for evaluating potential sites, (2) the preparation of environmental assessments to determine the impact of a repository at each potential site and rank proposed sites in order of preference for detailed study, and (3) a site characterization phase to conduct detailed on-site research at the identified sites. After a site has been selected, NRC will issue a license for the construction of the repository if DOE meets the appropriate standards.

Besides authorizing facilities for permanent waste disposal, the act also required DOE to submit a proposal to the Congress on monitored retrievable storage (MRS) facilities. The act provided that such facilities, if authorized by the Congress, be designed to provide temporary isolation and easy recovery of waste until its permanent disposal. In April 1985 DOE announced its plans to propose that such a facility be an integral part of a nationwide disposal system and be constructed at Oak Ridge, Tennessee. In February 1986 a federal district court issued an injunction preventing DOE from submitting an MRS proposal to the Congress because DOE failed to consult with Tennessee on the siting of the facility. On November 25, 1986, the U.S. Court of Appeals for the Sixth Circuit reversed the district court's ruling and dismissed the state's petition for review of the Secretary's action.

In April 1986 DOE estimated the program's full cost to be between $24 billion and $32 billion (in 1985 dollars), depending upon the geologic media selected for the repositories. This estimate includes the cost of developing, constructing, operating, and closing two geologic repositories. It does not include the cost of an MRS or possible delays in the program.

The act also established the Office of Civilian Radioactive Waste Management (OCRWM) to manage the nation's nuclear waste repository program. The office is located at DOE headquarters in Washington, D.C., and is supported by DOE's field operations offices. Project offices in Las

Vegas, Nevada; Columbus, Ohio; and Richland, Washington, are responsible for the work on the nine sites that DOE formally identified as potentially acceptable sites in February 1983. These sites were identified as a result of work DOE had conducted under earlier commercial nuclear waste disposal program activities. (See p. 10.) Table 1.1 lists these sites, the rock type, and DOE project office associated with each.

Table 1.1: Potentially Acceptable First Repository Sites

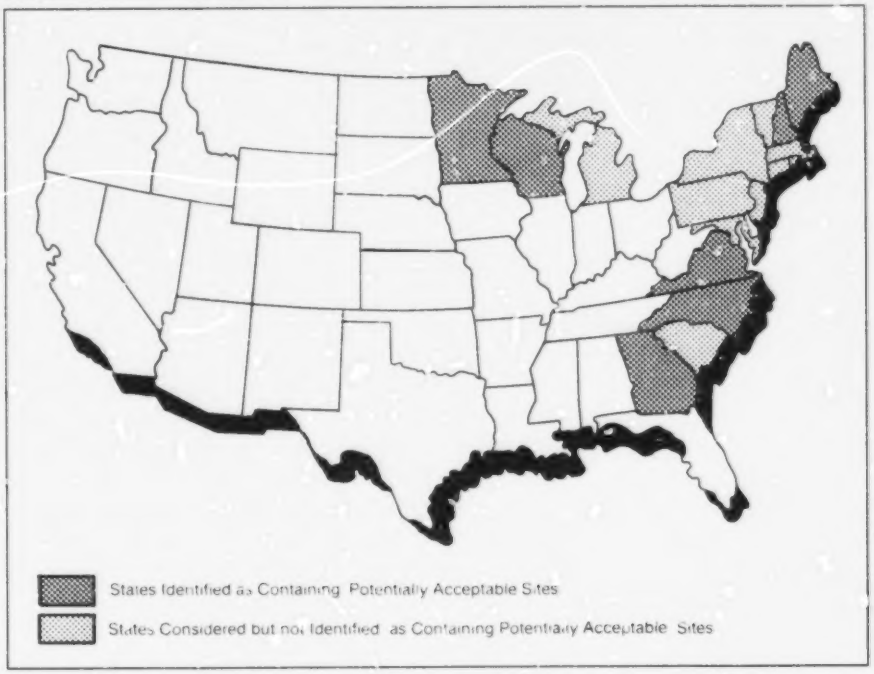
DOE project office	Host rock[a]	Potentially acceptable repository sites
Richland, Washington	Basalt	Hanford, Washington
Las Vegas, Nevada	Tuff	Yucca Mountain, Nevada
Columbus, Ohio	Salt	Vacherie Dome, Louisiana Cypress Creek, Mississippi Richton Dome, Mississippi Deaf Smith County, Texas Swisher County, Texas Davis Canyon, Utah Lavender Canyon, Utah

[a]The rock formations now being considered are basalt, a material formed from molten rock from volcanoes or fissures; tuff, a hard, compacted ash from volcanoes; and rock salt, a sedimentary rock formed by the evaporation of water from a saline solution.

In December 1984 DOE issued draft environmental assessments that tentatively identified the Washington, Nevada, and Deaf Smith County, Texas, sites as the leading candidates for formal extensive site testing known as site characterization. In May 1986 DOE issued the final assessments, the Secretary of Energy formally recommended the three sites for site characterization, and the President concurred.

DOE's second repository efforts have been led by the Crystalline Repository Project Office at DOE's Chicago Operations Office. This project office initially studied crystalline rock formations in 17 states for potential repository sites. In January 1986 DOE identified 12 sites in 7 states as candidates for the second repository, as shown in figure 1.1. In May 1986, however, the Secretary of Energy announced that site-specific work for a second repository was indefinitely postponed because of declining spent fuel projections and other program considerations. Second repository efforts are now planned to focus on broad-based technical studies and international cooperative efforts.

Figure 1.1: States Considered Under Second Repository Program


States Identified as Containing Potentially Acceptable Sites
States Considered but not Identified as Containing Potentially Acceptable Sites

Source: DOE.

Role of States and Indian Tribes

As discussed earlier in this chapter, DOE and its predecessor agencies have had a history of problems with many states. As a result, the Office of Technology Assessment reported to the Congress in 1985 that

> "The most formidable problem that the Act had to address was the intense level of mutual distrust among various concerned parties, a distrust that threatened to lock the waste disposal effort in a state of virtual and continual paralysis. . . .But a law alone, no matter how well framed, cannot by itself wipe out the long legacy of problems and false starts and the deep distrust it has generated among the principal parties involved and concerned with waste disposal. . . . That distrust may, indeed, be the single most complicating factor in the effort to develop a waste disposal system that is acceptable technically, politically, and socially."

The development of a satisfactory role for state governments and Indian tribes was one of several important elements of a comprehensive national nuclear waste policy. In passing the act, the Congress stressed the importance of state and tribal participation. The act provides that state and public participation in the planning and development of repositories is essential to promoting public confidence in the safety of high-

level nuclear waste disposal. The act contains many references to interactions between DOE and the states and Indian tribes, and allows a state or tribe to submit to the Congress a notice disapproving the selection of a repository site within its boundaries. The site will be considered disapproved unless the Congress, within 90 days of continuous session after receiving the notice of disapproval, passes a joint resolution approving the site.

Rather than specifying the level of participation expected, the act stated that the Secretary of Energy shall consult and cooperate with the governor and legislature of affected states and the governing body of affected Indian tribes to try to resolve their concerns regarding public health and safety, environmental, and economic impacts of a repository. According to the act, the Secretary is to take these concerns into account to the maximum extent possible while carrying out his duties. The act also established the formal consultation and cooperation agreement between DOE and affected states and Indian tribes as a mechanism for resolving questions on the amount of communication and participation, and differences of opinions. While negotiations for such an agreement can begin at any time, the act required that negotiations commence not later than 60 days after sites are approved for detailed study. The act required that (1) agreements be finalized to the maximum extent possible not later than 6 months after a state or tribe is notified of the approval of a site for detailed study or (2) a report be submitted to the Congress by the Secretary of Energy with the reasons the agreements have not been completed.

The act requires the negotiations for these formal agreements to address several specific areas, including procedures for states and tribes to (1) review, comment, and make recommendations regarding safety, environmental, and other impacts of any repository, (2) submit reports and requests for impact assistance, (3) conduct independent monitoring and testing of repository site activities, and (4) resolve their concerns through negotiation, arbitration, or other means. The act also states that the agreements are to include procedures for DOE to respond to state and tribal comments and recommendations; share information with states and tribes; and resolve concerns that arise in the general vicinity of a repository site.

Objectives, Scope, and Methodology

In order to respond to the concerns of the Chairman and the Ranking Minority Member of the Senate Energy and Natural Resources Committee about DOE's institutional relations program for implementing the act, we agreed to the following objectives for our review.

1. Identify the concerns states and Indian tribes have with DOE's nuclear waste program, including their level of participation in the decision-making process for waste sites, and where possible, identify the causes of these concerns.

2. Examine DOE's program for involving states and tribes and DOE's official positions on state and tribal concerns.

3. Determine what steps should be taken to improve DOE's program for involving states and tribes.

We did not attempt to evaluate the validity or objectiveness of the various assertions by the states, Indian tribes, and DOE about the conduct of the program. Our objective was to fairly present the concerns of the states and tribes (ch. 2) and correspondingly present DOE's program for consulting and cooperating with states and tribes (ch. 3). We also did not examine OCRWM's program for providing financial assistance to the states and tribes. For information on this program, see our April 1986 report on DOE's grants program.[6]

To determine states' and tribes' concerns, we visited or contacted by phone representatives of the 6 states (Louisiana, Mississippi, Nevada, Texas, Utah, and Washington) and 3 Indian tribes affected by first repository sites,[7] and the 17 states affected by the second repository program.[8] (No Indian tribes were designated as affected by the second repository program.) We interviewed the state and tribal officials responsible for their respective nuclear waste programs to determine

[6]Department of Energy's Program for Financial Assistance (GAO/RCED-86-4, Apr. 1, 1986).

[7]According to the act, the term "affected Indian tribe" means any Indian tribe within whose reservation boundaries a nuclear waste facility is proposed to be located or whose federally defined possessory or usage rights to other lands outside of the reservation's boundaries arising out of congressionally ratified treaties may be substantially and adversely affected by the locating of such a facility, provided that the Secretary of the Interior finds, upon the petition of the appropriate governmental officials of the tribe, that such effects are both substantial and adverse to the tribe. The Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, and Yakima Indian Nation have been designated affected Indian tribes for the first repository program.

[8]Connecticut, Georgia, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and Wisconsin.

their concerns about the waste program and to obtain their views on DOE's efforts to involve states and tribes. We also reviewed states' and tribes' (1) comments on major program documents, such as the draft environmental assessments, (2) testimony before the Congress, and (3) DOE correspondence.

To document examples of state and tribal concerns, we visited 4 of 6 candidate first repository states (Mississippi, Nevada, Texas, and Washington), 2 of 3 affected Indian tribes (the Yakima Indian Nation and the Confederated Tribes of the Umatilla Indian Reservation), and 4 of 17 candidate second repository states (Maine, Minnesota, Vermont, and Wisconsin). We selected the four first repository states because they were identified in DOE's December 1984 draft environmental assessment as the top four sites to be recommended for site characterization. The tribes selected were the ones with the longest involvement in the program. States in the second repository program were selected to obtain geographic representation from two of the three regions (north central and northeastern) included in the second repository program. We did not obtain tribal views on the second repository program because the program had not progressed to the point where Indian tribes had been formally identified as affected by potential repository sites. To determine the state of Tennessee's concerns we relied on documents, such as its comments on DOE's draft MRS proposal, collected during other reviews of the MRS proposal.

To determine the extent and completeness of DOE's program for involving states and Indian tribes, we interviewed headquarters officials responsible for defining DOE's policy. We also interviewed officials who are directly involved in implementing the repository siting and development program and who interact most directly with state and tribal representatives. We visited each of the three project offices responsible for the first repository program (Las Vegas, Nevada; Columbus, Ohio; and Richland, Washington), and the project office responsible for the second repository program (Chicago, Illinois). At each project office we met with officials who interact directly with state and tribal officials and we reviewed office correspondence files. We also reviewed and discussed with these officials pertinent program documents, such as the Mission Plan, the draft environmental assessments, and the siting guidelines. As part of this effort, we attempted to determine DOE's effectiveness in responding to states' and tribes' written requests by examining DOE's methods of tracking its responses to incoming correspondence at headquarters and at the project offices.

Because of states' and tribes' concerns about their participation in the program, we reviewed the act and numerous congressional hearings that led to its passage to determine what the Congress intended. To assist us in assessing the effectiveness of states' and tribes' participation, we used two expert consultants in the field of citizen participation and public involvement: Mr. James Creighton, a private consultant and Dr. David Bella, Professor of Civil Engineering at Oregon State University.

In preparing this report, we also relied on information presented in several reports we have prepared regarding commercial high-level radioactive waste. (See app. I for a listing of these reports.)

Our work was performed in accordance with generally accepted government auditing standards.

DOE's Efforts to Involve States and Tribes Have Not Improved Their Confidence in the Nuclear Waste Repository Program

States and Indian tribes generally do not want a nuclear waste repository located within their jurisdiction because of environmental and socioeconomic concerns. They are concerned about radiological pollution of ground and surface waters, the disruption of traditional land uses, the displacement of people, and the discouragement of businesses in the proposed repository areas. The affected tribes are also concerned about future encroachment on the rights they retained in their treaties with the United States and the possible contamination of cultural and religious resources, which cannot be replaced.

According to states and tribes, DOE's efforts to consult and cooperate with them as prescribed in the act have not relieved their overall health and safety concerns, and in some cases have exacerbated them. States and tribes believe that they have not been permitted to adequately participate in the decision-making process to determine how, where, and when a repository will be sited and constructed. In particular, states and tribes believe that their lack of influence has resulted in a number of ill-advised DOE decisions affecting the first repository selection process and other program areas. Besides not adequately involving them in the program, states and tribes believe that DOE has not responded in a timely manner to their inquiries or provided adequate time for public review of DOE draft documents. DOE actions on the second repository and MRS programs have caused similar concerns for the states affected by these programs.

States and tribes told us that their lack of confidence in the waste program has increased the likelihood that they would file a formal notice of disapproval of the first repository if it is located within their boundaries. This action would contribute to increased costs and further delay the program. Other delays will likely result from litigation and other actions taken by states and tribes. Some states and tribes have publicly stated that DOE should stop the program, start over the selection process, or at least slow down the program until DOE is able to develop more credibility by better addressing state and tribal concerns in both the public process applied to implementing the act and the technical program associated with site selection.

States and Tribes Are Concerned About Environmental and Socioeconomic Issues

Most representatives of the states and tribes involved in the program and many residents who testified at various nuclear waste public hearings said they are very concerned that a nuclear repository located in their area could damage large areas of land, water, and/or adversely affect large numbers of people for hundreds to thousands of years. The following is a sample of these concerns:

- Texas State officials and residents near the proposed Deaf Smith repository site are fearful of potential radiological leaks into the Ogallala and Santa Rosa aquifers, which are primary sources of drinking and irrigation water for area residents and thousands of square miles of prime farmland. They are also concerned about taking a minimum of 5,700 acres of rich farmland out of production, displacing at least 10 families that have farmed the land for generations, and discouraging industrial and agribusiness developments, which, before the proposed repository, had been expected to be constructed in Deaf Smith County. State officials say that they are also concerned that a repository in that county would damage the reputation of the products produced in one of the top-producing agricultural counties in the United States.
- Washington State officials and residents are concerned that radiological leaks at the proposed Hanford site will filter into groundwater, which feeds into the Columbia River, and contaminate what they say is the most important river for irrigation and hydroelectric power in the Northwest. The Yakima and Umatilla Indians have added concerns about their treaty fishing rights in the Columbia River.
- Nevada State officials and residents are concerned that having a nuclear "dump" in their state is geologically unsafe because of the risk of earthquakes, and that the negative connotations would reduce the state's tourist trade, its number one industry.
- Some Tennessee State and local officials and residents are concerned that a monitored retrievable storage program in that state will hinder communities' efforts to diversify and expand their commercial and industrial base.
- State officials of Minnesota, where a second repository site was under consideration, are concerned that radiation releases could affect one or more of the state's three major watersheds, and/or some of its 15,000 lakes and 90,000 miles of waterways.

While there have been a few reported instances of local units of government supporting the development of a repository, generally all of the state and tribal representatives we spoke with had environmental and social concerns similar to those in our examples. In short, the environmental risks associated with a repository, as states and tribes perceive

them, far outweigh any economic benefits attributed to a future repository. States and tribes believe that only through their active participation will essential environmental, socioeconomic, and other issues affecting their regions be adequately addressed.

First Repository States and Tribes Are Dissatisfied With Their Level of Participation and Program Influence

States and tribes affected by the first repository have serious concerns about their participation in and influence on the first repository program. These concerns are directed primarily toward DOE headquarters, where most program decisions, including those pertaining to the level of state and tribal participation, are made.

While the act is relatively vague about what constitutes consultation and cooperation, generally states and tribes differ with DOE on what they believe to be their proper level of participation in the program and complain that DOE has failed to properly define consultation and cooperation under the act. Many states and tribes told us that they have requested DOE to better define consultation and cooperation so that they can better understand their roles. According to them, DOE has attempted to equate the act's consultation and cooperation provision with keeping the statutorily affected parties informed of the program developments and decisions and allowing them to comment on draft documents. The alternative position, to which states and tribes subscribe, holds that consultation and cooperation should include the opportunity for affected parties to be involved in the program decision process at an early point so that their knowledge and input can be considered in developing documents and decisions.

As an example of where they believe DOE should allow them earlier access to the decision-making process, state and tribal representatives cite DOE's December 1985 rejection of their efforts to directly participate with most of DOE's internal coordinating groups. While DOE allowed state and tribal representatives to participate in its coordinating group meetings on transportation, environmental, and socioeconomic issues, it did not do so for seven other groups addressing technical site characterization matters and other aspects concerning the development of the first repository. Because these groups are responsible for developing and recommending policies for site characterization, transportation, and other technical areas, states and tribes believe their early involvement is necessary. They believe that without such involvement, preliminary decisions are made that DOE is not likely to change at a later time. States and tribes also said that once they are allowed to participate in these groups,

they are concerned about whether these groups would remain a forum where early decisions are made.

When asked to provide examples of their lack of program influence, states and tribes told us that (1) the first repository siting process has been unfair, (2) DOE has not adequately used technical information developed at individual sites, (3) DOE has unrealistically adhered to the act's schedule for completing the repository, (4) DOE incorrectly decided to determine a site's suitability before site characterization, and (5) DOE unlawfully postponed the second repository program.

First Repository Siting Process

States and tribes have many complaints about the first repository siting process. Overall, they feel that (1) the initial selection process was unfair, (2) the guidelines used to distinguish the sites in the environmental assessments are inadequate, and (3) the revised methodology applied to the sites as an aid in the ranking of the sites for characterization should have been reviewed by the states and tribes or outside parties. In addition, Washington State representatives and others do not believe the three candidate sites selected are consistent with the methodology.

States and tribes generally believe that DOE should have initially conducted a nationwide search for potential repository sites. A Mississippi nuclear waste official commenting on the selection process said there is a strong likelihood that there are sites, other than those now being considered for the first repository, that are far superior from a scientific, environmental, economic, and even political point of view, but they are not being studied. Washington and Nevada State officials said the only reason Hanford (Washington) and Yucca Mountain (Nevada) were initially examined is that they are located on federally owned lands.

States and tribes are also concerned about the method DOE used to select three sites from the original nine sites. For example, they believe that the December 1984 siting guidelines, which specify detailed geologic considerations that are to be the primary criteria for site selection in various geologic media, are inadequate. States and tribes said that DOE's guidelines are vague and lack sufficient specificity for screening out predetermined sites, and allow too much room for judgment. A Texas official commenting on state involvement in the development of DOE's siting guidelines said DOE apparently decided that consultation meant providing selected information, of DOE's own choosing, at a time when it felt prepared to present the information. According to this and other state

and tribal officials, DOE did not consult with them in preparing initial working drafts of the siting guidelines in 1983, but instead later allowed them to comment on proposed rules and several major informal draft revisions. According to them, major disagreements, which they still have concerning the guidelines, might have been alleviated with earlier state and tribal participation. Instead, seven states and other private organizations have filed lawsuits challenging the validity of the guidelines. These cases are under consideration by the U.S. Court of Appeals for the Ninth Circuit.

States and tribes also believe that they were not adequately involved in developing or applying the ranking methodology used with the environmental assessments for first repository sites. A Mississippi official, in commenting on DOE's method for ranking potential sites as presented in the draft environmental assessments, testified that states and tribes were denied the opportunity to participate in the process in a meaningful way. According to other state and tribal officials, DOE issued its ranking methodology in December 1984 without prior input from states or tribes, despite their requests for such input since early 1983. In August 1985, 8 months after issuing the draft environmental assessments and after receiving heavy criticism from states, tribes, and the National Academy of Sciences (NAS), DOE revised the ranking methodology and issued a document describing the new process. According to state officials, however, DOE again did not consult with states or tribes on the revised methodology.

While most states and tribes initially saw NAS's review of the revised methodology as a positive step, they were not pleased that DOE would not allow them to be present at its meetings with NAS or allow them to review the information studied by the NAS panel. Several states asked DOE to reissue the draft assessments and the revised methodology for another round of formal comments. States and tribes claimed that DOE's avoidance of state and tribal input at this stage of the assessments' development was another instance where DOE damaged the program's credibility. Following issuance of the final assessments and the selection of the three sites for site characterization in May 1986, the three states remaining in the program—Washington, Nevada, and Texas—filed lawsuits challenging various aspects of the first repository site selection process. In particular, Washington State claims that the three selected sites were not consistent with the decision-aiding methodology, which in a number of analyses listed the Washington site (Hanford) last in order of preference.

DOE's Technical Evaluations of Individual Sites

First repository state officials said that they have major concerns about the ability of any site to contain and isolate nuclear waste from the environment for thousands of years. Because of these concerns they believe that technical aspects of the program should be viewed very conservatively. First repository states and tribes cited many technical concerns in responding to the draft environmental assessments. States and tribes said that data in the draft environmental assessments used to evaluate potential sites contained technical and factual errors and lacked sufficient information to justify conclusions about site suitability. They said that more data were available on some of these sites, but DOE had not involved them in obtaining the data, so they did not know what data had been used until the draft assessments had been issued.

States and tribes also believe that DOE's decisions for screening sites have not been based on an adequate evaluation of available data. For example, one state said that DOE has been overly optimistic in estimating groundwater flow where hard data has been absent. Others stated that DOE's technical analysis is biased because it did not involve states and tribes, and DOE has not addressed the fact that much of the technology being used in this program is experimental. One state suggested that DOE make provisions for a peer review by an independent third party during the site characterization phase to ensure adequacy and consistency of data collection efforts and analysis.

DOE's Schedule for Completing a Repository

Five of the six first repository states and one tribe said the 1998 date for opening a repository is an unrealistic objective. They base this opinion in part on DOE's past record of not meeting interim deadlines for the siting guidelines, the Mission Plan, and the environmental assessments. States and tribes noted that DOE has not adjusted the 1998 date to accommodate these program delays, even though DOE has missed interim deadlines by up to 18 months and has been advised by NRC that its estimate of 27 months to obtain a construction license is very optimistic.

States and tribes are primarily concerned that DOE may (1) hurry through the site selection and site characterization processes, thereby precluding complete, consistent, and verifiable data collection efforts, (2) not take the time necessary to involve states and tribes and include their technical, environmental, and socioeconomic views in future program phases, such as site characterization, and (3) have underestimated the complexity of issues expected to be raised at the NRC licensing hearing and the time required by NRC to render its licensing decision.

DOE's Decision to Determine Sites' Suitability Before Site Characterization

At least three of the six first repository states and one of the three tribes differ with DOE's interpretation of section 114(f) of the act concerning when sites should be determined suitable for development as repositories consistent with siting guidelines. DOE decided that preliminary determination should occur at the time it recommended three sites for characterization to the President. The final environmental assessments, issued in May 1986 as part of the site selection process, contained DOE's determination of the preliminary suitability of the three sites, which were recommended and then approved by the President. DOE believes that only one of the three sites needs to be proven suitable after detailed site testing to meet the terms of the act. States and tribes believe that the preliminary determination should occur at the end of site characterization and that three sites should qualify as suitable.[1] One state official said this was a unilateral interpretation of the act in which states and tribes had no input and which DOE will not change.

Underlying states' and tribes' opposition to DOE's preliminary determination and, to some extent, the siting process, is a belief that DOE should do all it can to find the best site available for a repository. Some states are concerned that if only three sites are characterized and one or more are eliminated during the characterization activities, DOE may be forced to accept a site that may be only marginally acceptable, technically or economically.

DOE's Postponement of the Second Repository Program

The three states and three Indian tribes remaining in the first repository program after the President selected three sites in May 1986 for site characterization are highly critical of DOE's decision to postpone second repository site-specific work. They believe that by postponing the program DOE has ensured that most of the nation's nuclear waste, which is in the East, will end up in a western repository. This, they say, upsets the geographic balance designed into the act that required DOE to recommend sites for a second repository by July 1989. The state of Washington filed suit challenging the decision soon after the May 1986 decision.

[1] In our report, The Nuclear Waste Policy Act: 1984 Implementation Status, Progress, and Problems (GAO/RCED-85-100, Sept. 30, 1985), we presented alternatives for the Congress to consider, including directing DOE to characterize more than three sites, to ensure that alternative sites are available for final selection.

First Repository States and Tribes View Other Aspects of DOE's Efforts to Consult and Cooperate With Them as Arbitrary and Incomplete

First repository state and tribal representatives we contacted said DOE efforts to consult and cooperate with them have not relieved their program concerns. In addition to overall concerns about their level of participation in program decisions, representatives also believe DOE has not allowed them adequate time to review program documents, responded in a timely manner to their requests, or adequately notified them of upcoming meetings or decisions that have a major effect on the program.

Reviewing DOE Documents

States and tribes said that when they are asked to comment on DOE's draft documents, DOE does not permit enough time to review them or provide adequate feedback. They said this has limited their ability to participate in a meaningful manner, primarily because they said that with more time they could provide more complete and detailed comments, which could help DOE develop better information. All six of the first repository states and two of the three tribes cited this as a problem on major documents, such as the draft environmental assessments. Some examples follow:

- According to Washington State officials, DOE's schedule allowed the state only 8 working days to comment on a revised 39-page draft of the siting guidelines received on September 27, 1983. In the state's response to DOE on October 7, 1983, a Washington official stated that because of the very tight schedule, they were unable to conduct a detailed, comprehensive comparison of the proposed final version against earlier drafts. He also noted that the review was more difficult because the new draft contained no references to indicate changes for comparison with earlier wording.
- DOE gave states and tribes 90 days—from December 1984 to March 1985—to comment on the draft environmental assessments. Five of the six first repository states and all three of the affected tribes requested more time to comment on the documents because of their size (about 10,000 pages) and complexity. States noted that reference documents were not available until several weeks or longer after they had received the drafts, thus causing further problems in meeting comment dates. They also noted that although DOE would not formally extend their comment period, it did not issue the final environmental assessments until about 14 months past its originally announced schedule.

Responding to States' and Tribes' Requests

The act requires that DOE respond within 30 days of receiving a request for information from the governor or legislature of a state or from the governing body of any affected tribe. Four of the six first repository states and two tribes said that they have occasionally had problems in receiving timely responses, and at times, receiving any response from DOE. Examples provided by states and tribes showed that DOE's responses to requests ranged from 40 days to 7 months on requests for information or policy clarification made in the period 1983-85. In many of these cases, states and tribes stated that DOE even failed to acknowledge receipt of the request or to let them know how long a response might take. States and tribes also told us they had to wait weeks and sometimes months to obtain requested backup information from DOE that they needed to evaluate the draft environmental assessments. State and tribal officials stated that DOE's record on response time has generally improved in the past year, but that the problem remains and has contributed to their low confidence in the program.

Notification of Meetings and Decisions

State and tribal officials indicated that on several occasions they have received inadequate notice of upcoming technical and informational meetings. These officials said that they have very limited staffs and consequently need extra time to plan and/or prepare for such meetings. However, they often receive only a few days' or a week's notice. They also said that all too frequently different divisions within OCRWM schedule meetings that conflict with other important meetings called by DOE or NRC. They also stated that DOE makes program decisions, which have tremendous effects on states and tribes, without adequate notice. States and tribes point to the issuance of the environmental assessments, the selection of three sites for characterization, and the postponement of second repository siting activities on May 28, 1986, as the most blatant of DOE's failures to give them adequate notice. States and tribes told us that they found out about these decisions within an hour of the time DOE announced them to the news media.

States Question DOE Efforts to Involve Them in the Second Repository and MRS Programs

The act provides for the development of a second repository and one or more MRS facilities. (Construction can be undertaken only after future congressional authorization.) Indications are that DOE's efforts to interact with affected states may have initially been better for the second repository program than for the first, even though these 17 states had many of the same general concerns, such as the lack of meaningful input, as those of the first repository states. However, concerns by second repository states, especially those states where potentially

acceptable sites were identified, intensified when DOE narrowed the areas under consideration for a second repository. Even after DOE indefinitely postponed site-specific activities related to the second repository in May 1986, some second repository states remained unsatisfied because they wanted the program terminated completely. The MRS program has caused state and local concerns which, although now involving only one state, also reflect on the credibility of the total program.

States Had Mixed Reactions Concerning the Second Repository

The site selection process for the second repository proceeded from initially identifying in a 1983 national survey 3 regions, to identifying over 200 areas in the 17 states within the 3 regions in 1985.[2] Finally, in a January 1986 draft area recommendation report, DOE identified 12 proposed potential sites in 7 states,[3] with 8 backup sites in 4 of the same states. DOE and state officials stated that the second repository program started out at an "earlier" phase of a national screening process and, therefore, the siting of a second repository was initially somewhat far removed. Because of this they said that states' concerns about this program did not seem as intense as their concerns with first repository efforts until the January 1986 draft area recommendation report identified specific areas for consideration. Other state officials stated that because DOE had made few major decisions directly affecting states in the second repository program, reactions from states were generally less adverse than reactions to the first repository.

In January 1986, when DOE issued its draft area recommendation report identifying 12 potential second repository sites, state and tribal criticisms of the second repository program increased. State and local opinions expressed at the public hearings following release of the draft were generally very critical of DOE's waste program. About 60,000 comments were submitted to DOE on the draft area recommendation report before the postponement decision. At the time of the decision, DOE said it would catalogue these comments but not analyze them or issue a comment response document. DOE also said that when the second repository program was restarted, it would begin at "square one" and that the sites identified in the report were no longer under consideration.

[2]Connecticut, Georgia, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and Wisconsin. No Indian tribes were afforded "affected status" in the program in 1985.

[3]The seven states are Georgia, Maine, Minnesota, New Hampshire, North Carolina, Virginia, and Wisconsin.

The second repository states also pointed out a positive aspect of DOE's consultation and cooperation efforts under the second repository program. Several states indicated satisfaction with many of the efforts of DOE's Crystalline Repository Project Office in Chicago to involve them in developing the screening methodology. In developing the methodology to narrow sites from a broad region to more specific areas, the office conducted three workshops to provide representatives from the 17 states with crystalline rock sites an opportunity to comment and present ideas on the proposed screening method. Although DOE did not seek or attain consensus through this process, states believe it was a more participatory process than the one used in the first repository program where states and tribes had little input into the ranking methodology used in the draft environmental assessments.

Before the postponement representatives of the 17 states expressed problems that generally fell into the following categories, most of which were similar to concerns expressed about the first repository program.

- Six states cited specific concerns with the siting/screening process. Their primary concern was the absence of certain variables in the screening methodology document, such as excluding population growth and transportation variables and not specifying how DOE would weigh each variable.
- Eleven states said DOE should have involved states more in identifying issues and alternatives prior to making decisions that will affect states. One state representative noted that DOE's comment response documents indicated that his comments had little or no influence in swaying previous DOE decisions or causing DOE to conduct more thorough investigations.
- Four states cited examples of DOE's unresponsiveness within the 30-day limit to requests for information.

In addition, second repository states said that on the basis of DOE's experience with missing deadlines in the first repository program, DOE's schedule for the second repository program was unrealistic. They pointed out that DOE did not build into its planned schedule potential delays from lawsuits concerning documents, such as the draft area recommendation report released in January 1986. This report applied the screening methodology developed earlier to the over 200 areas identified in 1983 and proposed 12 potentially acceptable sites in 7 states. DOE gave states and tribes 90 days to review the report, although many of them said it would take more time. In February 1986 Maine and New Hampshire, in a lawsuit later dismissed by the U.S. Court of Appeals for

the First Circuit, petitioned for more time to review and comment on that document.

The MRS Program Poses Concerns for Tennessee

Besides authorizing facilities for permanent waste disposal, the act requires DOE to submit a proposal to the Congress on MRS facilities. The act provides that such facilities, if authorized by the Congress, be designed to provide temporary isolation and easy recovery of waste until its permanent disposal. To date, the MRS program has been marked by delays and litigation that have prevented DOE from submitting its proposal to the Congress. (See app. I for a list of related GAO reports, including those on the MRS program.)

The act required DOE to complete a detailed study of the need for and feasibility of one or more MRS facilities on or before June 1, 1985. The act also required DOE to submit by that date a proposal to the Congress for its approval for the construction of one or more of these facilities. OCRWM determined in April 1985 that an MRS facility should be part of an integrated waste management system and would enhance the system's operation by repackaging and consolidating spent fuel shipped to it from nuclear power plants. OCRWM also announced that it had identified three potential sites, all in Tennessee, for the proposed MRS facility and that its preferred site was the abandoned Clinch River site in Oak Ridge. DOE did not complete the study or submit the proposal by June 1, 1985, and, according to DOE officials, informed the appropriate committees in February 1985 of the delay. DOE issued a status report on June 1, 1985, to the Congress on the MRS program stating that DOE would submit the MRS proposal to the Congress by January 15, 1986.

On August 20, 1985, Tennessee filed suit against DOE for violating federal law by conducting a study of three sites in the state of Tennessee as possible locations for a monitored retrievable storage facility without consulting and cooperating with the state. The state said in its motion that the DOE study identifying Tennessee as a site was totally void of any participation by Tennessee officials.

After announcing the proposed Tennessee sites for the MRS facility, DOE granted the state $1.4 million to assist in determining the impact of an MRS on the state and developing an opinion on the acceptability of the facility. An overall concern of state officials is that the MRS facility could become the nation's permanent repository by default because of the technical and political difficulties that may be encountered in DOE's siting of a deep geologic repository. Other concerns have emerged from

the state's evaluation process. For example, Tennessee officials said that DOE

- gave too much weight to siting MRS on federally owned land,
- used questionable site-specific data,
- did not include transportation corridors as part of the affected environment,
- did not weigh selection criteria objectively or apply it fairly and uniformly, and
- did not provide key information to the state in a timely manner or allow sufficient time for review and comment.

In January 1986, after reviewing DOE's draft proposal and accompanying program plan and environmental assessment, the state of Tennessee formally rejected DOE's plans to construct an MRS facility in Tennessee. On January 21, 1986, the governor of Tennessee told the Secretary of Energy that he would disapprove federal plans for an MRS facility in Tennessee and would urge the Congress not to override his disapproval. His conclusion was based on a study prepared by the state's Safe Growth Cabinet Council. Although the council said the facility can be operated safely, it objected to the Oak Ridge site for the facility for two major reasons:

1. The facility is unnecessary and therefore a waste of money.

2. The negative socioeconomic impacts of placing an MRS in the Oak Ride area far outweigh any benefits to the area. The Oak Ridge-Knoxville area is becoming one of the most attractive areas in America for new jobs and technology. Placing an MRS facility there could result in a loss of many more jobs than the facility would provide.

On February 5, 1986, a federal district court ruled that DOE had violated the act by failing to consult and cooperate with the governor and legislature of the state of Tennessee when it selected the MRS site. Two days later the court also granted an injunction stopping DOE from submitting the MRS proposal to the Congress. DOE appealed the decision to the U.S. Court of Appeals for the Sixth Circuit. On November 25, 1986, that court reversed the district court's decision and dismissed the state's petition for review of the Secretary's action.

Potential Impacts of States' And Tribes' Lack of Confidence in the Program

While states and tribes have raised concerns against a nuclear waste repository because of environmental and socioeconomic concerns, they also say that they lack confidence in both DOE and the total nuclear waste program. This lack of confidence could result in added costs and program delays. States and tribes are afraid that DOE will make ill-advised siting decisions, which have a direct affect on them, without their substantive participation.

For the most part, states and tribes told us that any site selected for a repository or an MRS facility will not be approved by the affected state and tribes and that DOE is doing little to change this position. States and tribes believe that the final decision to begin construction of a repository will probably rest with the Congress, which will have to override a state or tribal disapproval. Partially because of their lack of confidence in the program, state and tribal officials also say that affected parties will continue to file lawsuits at key decision points of the program. Through June 1986, at least 8 states and 5 other groups had filed over 25 lawsuits against DOE concerning its implementation of the act.

DOE estimated in April 1986 the cost of the total program (excluding MRS) to total $24 billion to $32 billion. MRS, if approved, would cost another $1.6 billion to $2.6 billion. Litigation could delay the program considerably, subjecting it to increased costs. For example, successful challenges to the siting guidelines or environmental assessments could, according to DOE officials, delay the program 2 years or more. Litigation has already delayed the Congress' consideration of MRS, whose licensing process was expected to provide a valuable learning experience for DOE officials. Furthermore, should an affected state or tribe ultimately disapprove the final site selection, a congressional review might also substantially delay the program, thus increasing costs. Such potential repercussions highlight the need for improved state, tribal, and DOE relations.

States and tribes, however, are uncertain whether DOE can do anything at this point to change their opinions or stem litigation. At least three states said they are so dissatisfied with the program that they have requested DOE to suspend the first repository program. For example, the governor of Texas in an October 1984 letter to the Secretary of Energy recommended that the first repository siting process be started over because he had lost faith in the integrity of DOE's site selection process. The governor of Washington, in testimony before a Senate subcommittee in July 1986, also called for DOE to halt the first repository program in order to reassess and redefine the site selection process. Short of

starting the process over, state and tribal representatives said that DOE needs to more effectively consult, cooperate, and involve all affected parties in every phase of the program in an attempt to create a better, more harmonious working relationship.

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DOE Cites Improvements in Its Program to Involve States and Tribes

DOE officials told us that states and Indian tribes have an important role to play in providing maximum confidence that the technical and health and safety concerns of a long-term repository are identified and properly addressed. In carrying out consultation and cooperation responsibilities, DOE officials said they have developed an overall strategy, initiated a number of efforts to communicate with and involve states and tribes, and tried to negotiate agreements that they feel are needed to permit more effective federal, state, and tribal interactions. This chapter provides DOE's views on its efforts to consult and cooperate with affected states and tribes.

DOE officials acknowledge that their efforts to interact with states and tribes have evolved differently for the first repository, second repository, and MRS efforts. These officials believe that their current first repository program efforts are a considerable improvement over initial efforts and that their second repository efforts have been extensive and effective since passage of the act. DOE also believes that although the act did not provide for consultation and cooperation early in the MRS program, its offices have worked hard to coordinate with Tennessee since tentative sites were identified in that state. (DOE's appeal of a district court ruling that determined DOE violated the act by failing to consult and cooperate with the state of Tennessee was upheld in November 1986.)

DOE officials said that even with improving interaction with first repository states and tribes and extensive efforts made with Tennessee and the second repository states, they expect to continually encounter difficulties in their relationship with states and tribes because the disposal of nuclear waste is such a controversial issue.

DOE's View of Relations With States and Tribes

DOE nuclear waste officials told us that they believe that the development and construction of the nation's first nuclear waste repository is technically feasible. They acknowledge that there are environmental and socioeconomic concerns to be addressed but believe that the development and licensing processes established in the act will ensure that they are resolved. In particular they believe that the detailed site characterization work not yet initiated at the three candidate sites selected in May 1986 will identify and address technical concerns and that the licensing process overseen by NRC will ensure that all health and safety concerns will be adequately addressed.

DOE officials believe that in order for their waste repository effort to be successful they must effectively consult and cooperate with states and tribes. They also believe that the act is unprecedented in its clear direction for DOE to interact through consultation and cooperation with states and Indian tribes in carrying out the required activities. According to DOE officials, since the act allows a state or tribe to disapprove a recommended repository site, they must successfully confront the factors creating state and tribal opposition. First among these is the "not-in-my-backyard" syndrome and second the belief that DOE is not carrying out its responsibilities in the public interest. DOE officials told us that they must conduct an excellent technical program in order to develop confidence in their ability to protect public health and safety.

DOE officials said that while the act made provisions for involving states and tribes, including requiring public hearings on various program documents and providing grant funds to encourage the participation of affected states and tribes, it did not specify how this was to occur. Since the passage of the act, DOE has developed policy and strategy documents that officials state have helped direct and improve consultation and cooperation with states and tribes. The most important of these documents is the Mission Plan—an overall planning document required by the act.

The early drafts of the Mission Plan generally discussed DOE's institutional relations responsibilities but did not present a consolidated approach or strategy. Following the receipt of numerous comments on the initial draft calling for further emphasis on consultation and cooperation, DOE added a chapter to the plan on institutional relationships and issued the plan in July 1985. The chapter states that the four main objectives of DOE's consultation and cooperation strategy are

- to ensure full participation by states and tribes in program activities,
- to keep all affected parties informed of program activities,
- to assess the impact of program activities on affected parties, and
- to avoid or mitigate any negative impacts of program activities or compensate those affected negatively by these activities.

DOE has developed other documents that its officials said have improved or will improve consultation and cooperation efforts by establishing OCRWM policies and providing project offices with direction. These documents include

- grant guidelines (being revised as of October 1986), which provide specifics on how to issue and administer grants to states and tribes;
- consultation and cooperation guidelines (being revised as of October 1986), which provide overall principles and objectives to be achieved in a formal consultation and cooperation agreement; and
- guidelines for local and community actions, which provide objectives and standards for project offices' consideration of local issues.

Even though an overall strategy has been developed, a DOE official said that consultation and cooperation has not yet been specifically or formally defined by the agency in the Mission Plan or elsewhere. He said that DOE met with states and tribes in 1984 to discuss consultation and cooperation but were unable to reach a consensus. DOE maintains that consultation and cooperation can be defined only by actually negotiating a formal consultation and cooperation agreement (see ch. 1), and that no such agreement has been negotiated.[1] DOE officials expect that these agreements will focus, define, and document the consultation process and the procedures for its implementation, including means to arbitrate or mediate conflicting views. While DOE believes that establishing agreements would permit more effective interactions with the states and tribes, they say that the absence of agreements will not alter the program, and the informal consultation process with the states and tribes will continue. Since the selection of sites for characterization in May 1986, DOE officials have renewed their efforts to negotiate formal agreements with the three states and three tribes as required in the act.

First Repository Consultation and Cooperation Efforts

When the act was passed in 1983, DOE was faced immediately with meeting a number of milestones set forth in the act that affected their first repository consultation and cooperation efforts. The act called for a number of actions to be taken in the first 180 days and for completing first repository siting documents within the first 2 years of the program. During the first year, DOE was faced with such tasks as

- identifying potential first repository sites;
- negotiating contracts with each of the owners of spent nuclear fuel from all sources, including both past and current nuclear power plants;

[1]The state of Washington is the only state that has pursued negotiations for a formal agreement. Negotiations were "suspended" in early 1985 because of the question of liability for potential accidents at a future repository and other issues, such as defense wastes. The state would like the federal government to assume unlimited liability, but DOE can provide only limited protection under the Price-Anderson Act. DOE, the Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Indian tribe are currently negotiating toward a formal agreement.

- developing siting guidelines that would be used to evaluate potential sites; and
- developing a Mission Plan to guide overall program strategy.

In February 1983 DOE identified nine potential first repository sites. By July 1983 it had also negotiated contracts with nuclear utilities and other owners of commercial spent fuel. However, they were not as successful in meeting the deadline for the siting guidelines. DOE did not meet the milestone, officials said, because they needed to conduct an internal review of the guidelines.

DOE formulated the initial draft guidelines without formally asking for input from states or tribes. States, tribes, and the general public were given an opportunity to comment on the guidelines in February 1983 and again in May 1983 after the guidelines were substantially revised. While NRC—which was required by NWPA to approve the guidelines—deliberated on them, the states and tribes were given another opportunity to comment from March through May 1984. In December 1984 DOE published the official siting guidelines, about 1 year after the act required. It also published a preamble to the final guidelines, which, according to one state representative, contained significant insights into DOE's interpretation without advance reviews. DOE did not publish a comment response document annotating the disposition of comments made by the states and tribes.

DOE changed its review and comment procedures while formulating the Mission Plan in an attempt to get earlier feedback from affected parties. DOE issued a preliminary draft of the Mission Plan to get early comments before issuing the draft for formal comments. In a January 1984 letter that distributed the preliminary draft, the acting director of OCRWM's operations division said that the advance review, was an "extra step" DOE put into the process ". . . in an attempt to surface major issues and coordinate with those individuals and organizations closely associated with the program, in advance of the legally mandated formal draft." According to OCRWM's policy division, DOE considered all comments received on the working draft, revised the plan accordingly, and then issued the draft Mission Plan for formal comment in May 1984. The final plan was issued in July 1985 with a document that details DOE's disposition of each comment.

DOE officials said that as they took steps to meet the act's initial requirements, DOE became the target of criticism from states and tribes. They said that partly in response to those criticisms and partly because of

increased organizational stability, they began to take both programmatic and organizational steps to improve relations with states and tribes. These steps included (1) modifying OCRWM and project office organizations, (2) taking measures to inform states and tribes of program activities and better react to state and tribal concerns, and (3) providing for an independent peer review of a decision-aiding methodology used in identifying the three candidate first repository sites.

OCRWM Reorganized to Focus on Relations With States and Tribes

OCRWM was formally activated in October 1983, but a permanent director was not confirmed until May 1984. Throughout the first 18 months, the temporary project office at DOE headquarters (with interim responsibility for NWPA immediately following passage of the act) and OCRWM were managed by two different acting directors. On June 13, 1984, the new permanent director of OCRWM announced a reorganization. Under the reorganization, the Office of Policy, Integration, and Outreach was formed to centralize planning for the waste program, ensure the integration of headquarters and field activities, and coordinate the development and implementation of public and institutional relations.

Following the reorganization, this new office became the focus for overall policy decisions pertaining to federal/state relations. The Office of Geologic Repositories maintained its responsibility for state and tribal concerns pertaining to the repository siting programs. These offices together began to centralize further and control institutional relations programs and policies. For example, they played a key role in establishing the overall institutional relations strategy in the Mission Plan. They also established

- a grants clearinghouse procedure at headquarters to review all grant awards by project offices in order to establish consistency and accountability;
- a number of coordinating committees, including one to discuss and consider institutional/socioeconomic matters affecting states and tribes;
- desk officers at headquarters to provide a focal point for each state and tribe to obtain information;
- an outreach products committee, which has developed broad-based informational material for distribution on the waste program; and
- information centers in four states to provide in-state reference material on the waste program.

The project offices, which continue to be the principal communicators with states and tribes, also have changed organizationally to enhance

interaction with states and tribes. Each of the four project offices involved in the first and second repository programs has reorganized its institutional relations branch and designated specific individuals to be responsible for coordinating and communicating with individual states and tribes. These individuals rely, in part, on the desk officers at headquarters to relay and respond to specific concerns headquarters must address.

Steps to Inform or Involve States and Tribes

In conjunction with establishing organizational focuses for institutional relations and developing an institutional strategy and related policy guidelines, OCRWM headquarters and project office officials began actions to better communicate and interact with states and tribes. OCRWM actions taken over the past 2 years include the following:

- OCRWM scheduled a variety of meetings and workshops with state and tribal representatives to discuss general program information or more specific aspects of the program, such as transportation issues.
- OCRWM established tracking systems at the project offices and headquarters to ensure that states' and tribes' requests for information are responded to in a more timely fashion.
- OCRWM prepared comment response documents to provide feedback to states and tribes on the disposition of their formal comments on program documents.
- Beginning in February 1986 OCRWM allowed states and tribes to participate in the environmental and institutional/ socioeconomic coordinating committees in order to provide early input into program issues and decisions. State participation was also allowed in the transportation group beginning in mid-1986. According to DOE officials, states and tribes have not been invited to participate during the other coordinating group meetings because the technical issues raised at those meetings are always fully discussed at later NRC public meetings to which states and tribes are invited, and because of the time and cost associated with "opening" these meetings to non-DOE participants.
- OCRWM provided for an NAS peer review of the first repository site decision-aiding methodology, as discussed in the next section.

DOE officials said that these and other actions are positive steps toward promoting better overall relations with states and tribes and improving the credibility of the program.

The Environmental Assessments Reflect Changes in DOE's Approach to States and Tribes

DOE officials stated that the federal, state, and tribal interactions that took place during DOE's 3-year development of the first repository's environmental assessments are indicative of many of the problems that have occurred in these relationships. They said this development process also illustrates many of DOE's attempts to respond to state and tribal criticisms in order to improve the credibility of the program. DOE's approach to state and tribal involvement evolved during this time frame from a "review and comment procedure," which DOE used in the development of the siting guidelines and the initial draft Mission Plan, to the following procedures used to develop the environmental assessments: (1) directly consulting with states and tribes to clarify formal comments received on the draft assessments, (2) providing definite feedback by means of documents that respond to specific comments by interested parties, and (3) asking an outside agency for peer review of portions of the environmental assessments at the request of the states and tribes.

DOE officials stated that they provided many opportunities for states and tribes to comment on the environmental assessments. DOE began working on the assessments in early 1983 and states and tribes informally commented on preliminary drafts of all but two chapters before they were released for official comment. The draft assessments were released for formal comment on December 20, 1984. DOE conducted numerous briefings and public meetings in January 1985 and allowed 90 days (until March 20, 1985) for comment on the assessments. States and tribes requested additional time to comment, but DOE did not officially extend the time frame. DOE officials said, however, that they did consider over 20,000 comments, some of which were received up to 3 months after the official March 20, 1985, deadline.

DOE officials also said that on several occasions they met with state officials to clarify or further discuss comments that they thought needed amplification or explanation. The disposition of each comment was also described in comment response documents released with the final assessments. In response to the comments, DOE said it made numerous changes, including updating and correcting the technical data on which the siting selections are based.

An example of one area in the draft assessments that received numerous critical comments was DOE's site ranking methodology. In August 1985 DOE revised the methodology on the basis of comments received, and, following a suggestion from the state of Washington, requested NAS to review the revised methodology. Through a series of meetings and workshops, NAS made suggestions on changing the methodology. NAS also

selectively reviewed the application of the revised methodology to the data developed in the final assessments. (The NAS review was done at a cost of about $150,000 to the Nuclear Waste Fund.)

In April 1986 NAS formally notified DOE that the methodology was state of the art and appropriate for its intended use. NAS also stated that it detected no bias in its selected review of the methodology implementation, but criticized OCRWM for not using outside experts during its application. DOE thought that its use of outside consultants and NAS in developing and conducting the methodology provided sufficient independent review and that the partisan participation of states and tribes at that point would have been distracting. According to DOE officials, most concerned parties saw NAS's involvement as a positive step toward providing credibility for the assessments and the program.

One change DOE officials did not make in the final assessments concerns the concept of preliminary determination of the suitability of sites. (See ch. 2.) DOE did not reverse its earlier position on determining the suitability of potential sites for development even though states and tribes were generally critical of that decision. DOE officials believe that the NWPA does not specify the timing of the preliminary determination and that, therefore, the timing is left to the Secretary of Energy. They also said that reserving this decision until after site characterization could cost the program considerably more money because more than three sites would probably have to be characterized. After the final assessments were issued, this issue was included in pending lawsuits filed by Nevada, Washington, and the Sierra Club.

DOE Efforts to Involve States and Tribes in the Second Repository and MRS Programs

The act did not authorize construction of either a second repository or an MRS facility, but it placed many of the same responsibilities on DOE to consult and cooperate with the affected states and Indian tribes in these programs. The act gives the states and tribes the authority to disapprove any site selected for a second repository or an MRS facility within their geographic boundary. Therefore, DOE's efforts to develop relations with states and tribes are also critical for these programs.

Second Repository Program

DOE officials told us that prior to the program's postponement of site-specific activities in May 1986, the Chicago Crystalline Repository Project Office had a history of better coordination with the states involved in the second repository program as compared with coordination

between first repository parties. They attribute this in part to the fact that the program had the advantage of beginning at a much earlier phase of the screening process than did the first repository program and was not faced with meeting a number of critical milestones immediately after passage of the act.

After the act was passed, Chicago project office officials stated that they emphasized consultation and cooperation to encourage good state relations and to reduce long-term legal problems. When the Chicago project office was established during the last part of 1982, staff members began to work directly with states and over time established what they believed to be close coordination with state representatives. Throughout the second repository screening process the project office staff attended many meetings, briefings, and workshops involving the states, interested public, and, later in the program, second repository Indian tribes.

A Chicago project office official told us that the office's activities demonstrate the high priority it gives state relations. For example, even though financial assistance was not required by the act, DOE made it available to states beginning in 1983 in order to assist them in reviewing DOE activities in connection with the second repository. Later in the program, after the receipt of over 2,000 comments on prior drafts, the project office, following a state suggestion, decided to reissue draft regional characterization reports that identified the available environmental and geologic information that would be used in screening the identified areas of crystalline rock bodies in the Northeastern, North Central, and Southeastern regions as potential sites for a second repository. These revised draft characterization reports, along with a comment response document responding to the earlier comments, were issued a second time in December 1984 for state review and comment. Subsequently, the project office prepared comment response documents for each region as a supplement to the final August 1985 regional characterization reports. These documents contained responses to about 1,600 comments and were indexed and cross-referenced so that those who commented could determine how DOE responded to their particular concerns. The response documents showed that DOE added new data in some cases and in others made no changes because it thought the issues had been adequately covered or because it disagreed with the comment.

DOE officials also sought state expertise while developing a screening methodology document. The Chicago project office sought and incorporated state comments in preparing both the draft and final document and held workshops with the states to aid in developing the document.

At the workshops, state representatives helped develop factors to be used to narrow down the number of potential sites in the draft area recommendation report. After issuing the draft report in January 1986, DOE sponsored 77 briefings and hearings to obtain state and tribal comments on the report, which was to have been finalized by late 1986. DOE also provided computer access to data with terminals and modems made available through the financial assistance program. DOE officials stated that they told states repeatedly that their comments would be incorporated to the maximum extent possible. For example, comments from Minnesota and Wisconsin are being coded and cataloged after being received in August 1986. By May 1986 DOE had received about 60,000 separate comments. DOE also provided each state with access to collected geologic and other data so that the data could be independently analyzed.

On May 28, 1986, DOE announced that it was indefinitely postponing site-specific activities directed at identifying a second repository. According to the Director, OCRWM, the decision was based primarily on projections of declining amounts of spent fuel, the continuing progress of the first repository program, and the increasing cost estimates ($600 million to $800 million) of determining candidate sites for a second repository when the timing of the need for a second repository is questionable. The director also indicated that the 60,000 critical comments received on the draft area recommendation report played a role in the decision. He said that DOE did not expect such a large number of comments because of the involvement of states throughout the second repository selection process.

MRS Program

In April 1985 DOE formally decided to propose an integral MRS facility and issued a report identifying three potential sites, all in the state of Tennessee—the Clinch River Breeder Reactor site, DOE's Oak Ridge Reservation, and the Hartsville Nuclear Plant site. The report also said that the Clinch River site was preferred for the facility because it has

- good access to interstate highways and rail lines,
- a technical community to support the facility,
- a current data base on the characteristics of the site, and
- preliminary approval from NRC to site a nuclear facility there.

During the preparation of the site screening report prior to April 1985, DOE did not notify the state of Tennessee or any of the other states with sites under consideration. OCRWM officials said they did not notify the

state at that stage because the screening process was too preliminary for any meaningful state involvement. They also pointed out that the act does not require formal consultation and cooperation with a state until the Congress authorizes construction of the facility. As discussed in chapter 2, Tennessee sued DOE regarding this study and subsequently a federal district court enjoined DOE from submitting its MRS proposal to the Congress. DOE appealed the decision to the U.S. Court of Appeals for the Sixth Circuit, and in November 1986 that court reversed the lower court's ruling.

OCRWM officials said that since the preferred site was identified, they have improved communication and cooperation with state and local officials. OCRWM established a project office in Oak Ridge, which is responsible for assisting and communicating with the state. Since April 1985 when the governor of Tennessee directed the state's existing Safe Growth Cabinet Council to lead the state's review of the plan, DOE has provided a $1.4 million grant to aid the state in its review of program and technical information. OCRWM officials have also held several meetings and briefings throughout the state to inform the public and discuss draft MRS documents. OCRWM also sponsored trips for state and local officials to radioactive waste disposal facilities in Idaho, Nevada, and New Mexico for state and local officials to familiarize them with other federal nuclear waste activities.

In response to Tennessee's concern that the MRS facility could become the nation's permanent repository, DOE included in its draft proposal (which has not yet been submitted to the Congress) recommendations that would limit MRS storage to no more than 15,000 metric tons of uranium and forbid operation of the MRS facility until the first repository has a construction permit from NRC. In addition, DOE agreed that a management oversight group with state representatives should review MRS activities.

DOE's Outlook on Relations With States and Tribes

DOE officials told us that during the initial stages of the program, the level of attention directed toward communicating, consulting, and cooperating with the states and tribes in the first repository program was less than it should have been because (1) DOE's emphasis was on the Nuclear Waste Policy Act's initial milestones and (2) there were delays in getting OCRWM organized and staffed to meet consultation and cooperation responsibilities.

DOE officials believe that over the past 2 years they have made organizational changes that have enhanced their ability to work with states and tribes and taken a number of steps to communicate with and involve states and tribes. These officials believe that the environmental assessment process illustrates the evolution of their office in terms of better relating to states and tribes and proves that DOE is willing to meaningfully respond to states' and tribes' concerns in the face of slipping milestones. While DOE officials expressed a growing acceptance of program delays to satisfy state and tribal concerns, they note that the OCRWM director is trying to achieve a balance between addressing legitimate concerns and meeting legislative requirements and is therefore holding to the 1998 repository completion date.

DOE officials also generally expressed an appreciation of the states' and tribes' concerns to date, saying that the bulk of the technical data has been accumulated with the assistance of cooperating states and tribes. One project office director commented that the office "welcomes" new information that may eliminate a site from consideration. He said it is much better to identify such concerns beforehand instead of after millions of dollars have been spent on site characterization studies. In the same vein, the OCRWM director said that he believes the lawsuits challenging program activities in part are productive (or beneficial) because, although he feels confident in DOE's position, regardless of the outcome, crucial issues will be resolved. He noted, however, that injunctions or other actions that halt progress in certain program areas would not be productive or in the congressional interest.

DOE officials said they are convinced they are taking the appropriate steps to strike a balance between (1) informing and involving the states, tribes, and the public in the siting and development process and (2) accomplishing the programmatic objectives and requirements of the act. DOE officials told us that as the first repository program evolves to include fewer states and tribes, they hope that their increasingly concentrated on-site consultation and cooperation efforts will improve relations. They believe they have the proper strategy in place and the policies, procedures, and resources that will build up the future credibility of the program. They also believe they have fairly defined the role the states, tribes, and public will play in the program.

DOE officials stated that they feel relations with states and tribes will improve now that they are beginning the site characterization phase and are dealing primarily with only three states and three tribes. They said they plan to keep the affected parties informed and involved throughout

the formulation of the site characterization plans. They also believe that daily contact on-site with state and tribal officials will have the added benefit of increased technical credibility as federal and state officials work closely together.

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Conclusions and Recommendations

The Nuclear Waste Policy Act of 1982 established a program to deal with an extremely controversial, national problem—the disposal of high-level nuclear waste. The act created OCRWM within DOE to administer the program and required it to consult and cooperate with affected states and Indian tribes. It also gave those states and tribes a formal mechanism to disapprove a final repository site selection. In some areas the act was specific in defining how states and tribes were to be involved in the program, such as providing for prompt replies to information requests and determining when negotiations for formal agreements are to begin. In many other areas, the level of participation was not closely defined.

Since the program began, states and tribes have been dissatisfied with their level of participation and influence in the program. They have also expressed concern over the potential long-term environmental and socioeconomic risks associated with a waste repository. Because of these issues and states' and tribes' perceived lack of impact on the program, they have often been at odds with DOE, as evidenced by the number of lawsuits filed against the program. DOE, however, believes that a safe repository can be built as intended by the act and that it has improved state and tribal involvement in the program.

States, Tribes, and DOE Have Different Objectives and Perspectives

DOE and the involved states and Indian tribes have differing objectives, which have led to conflict throughout the first years of the program. DOE officials have stated that they have the responsibility under the act to develop, site, and construct the nation's first geologic nuclear waste repository and related facilities. They said that such a project is technically feasible and can be completed in a safe and timely manner as required by the act. States and tribes, however, do not want a repository in their jurisdiction for any reason because they are not confident of the safety of such a facility. They also say that they have become increasingly disenchanted with DOE's conduct of the program, which has not created confidence in the safety of the program.

DOE officials acknowledge that they were slow to meaningfully involve states and tribes in the first repository program, but say that they recognize the important role of the states and tribes in the process. To prove their point, DOE officials cite the Mission Plan, which lays out a broad-based institutional relations strategy and related objectives, and a number of organizational changes over the past 2 years to better relate to states and tribes. These officials also point out that they have taken

substantial steps to react to state comments and suggestions as illustrated by the NAS peer review of the first repository site decision-aiding methodology, and have recently begun to allow more state and tribal participation through internal coordinating groups where preliminary decisions are formulated.

While DOE says it is doing much to involve affected parties in the nuclear waste program, states and Indian tribes that might be affected by a nuclear waste repository disagree. They express concern about the disastrous environmental impact an accidental radiation release from a waste repository would have and are convinced that only through their more influential participation will they have any confidence that the environment in their jurisdiction is protected.

States and tribes recognize that under the act DOE has the responsibility to make final program decisions on the basis of information collected in cooperation with states and tribes; however, they also believe that the act gives them the right of full participation along with DOE in the nuclear waste program. States and tribes are of the opinion that they have largely been left out of this process, except to comment on DOE-prepared documents.

As a result of less-than-adequate participation, states and Indian tribes said they have not had an influence on the direction of the program, which they believe is being "pushed" to meet arbitrary deadlines. They believe that the program itself suffers from a number of flaws, including an unfair, inadequate siting process. Because of these and other environmental and socioeconomic concerns, states and tribes have little confidence in DOE, and have placed little credibility in the program. Furthermore, because of the ongoing problems they have had with DOE and its predecessors, they have grown to mistrust DOE and do not believe DOE when it says it can manage all of the technical problems associated with a repository.

If states and tribes continue to feel disenfranchised from the nuclear waste decision-making process and DOE's credibility remains low, the potential additional cost to the program could be very high. States and tribes will likely continue to litigate against the program, with injunctions or rulings against DOE resulting in delays and increased costs. Representatives of each state and tribe in the program have said that they would likely disapprove a site selected in their jurisdiction. In such an event, the Congress will be forced to override such a disapproval if a repository is to be built.

Possible Actions to Improve DOE Relations With States and Tribes

Because of the different perspectives of the states, tribes, and DOE, conflict, as manifested in litigation and other means, is likely to continue throughout the program. We believe that short of starting over the siting process, DOE can do little to resolve some of states' and tribes' long-standing concerns, such as their views on what they perceive to be an unfair first repository siting process that began prior to passage of the act. In addition, long-standing environmental concerns will not be resolved for some time because detailed technical studies, which will address these concerns, have yet to be conducted at the candidate sites. These types of concerns are likely to cause states and tribes to retain their strong opposition to a repository and related program efforts.

Although DOE has increased its efforts to consult and cooperate with states and tribes since the program was initiated, we believe DOE could take additional steps to alleviate some of the states' and tribes' concerns about their level of participation in the program and to try to improve the overall credibility of the program. These steps could include (1) opening all internal coordinating meetings to state and tribal participation, (2) using independent advisory groups, (3) adopting a revised strategy to formalize agreements with states and tribes, and (4) clearly defining consultation and cooperation in the Mission Plan.

DOE could open all internal coordinating meetings to state and tribal participation on a trial basis, including those meetings that are used to consider and develop technical site characterization programs. Currently most of the internal coordinating groups, primarily those dealing with technical or licensing issues (see p. 20), are closed to outside groups. DOE has not allowed state and tribal representatives to be present at these meetings because it believes that (1) eventually the technical issues are openly discussed at public NRC meetings to which states and tribes are invited and (2) additional time and money would be needed to accommodate state and tribal participation. Conversely, states and tribes believe that DOE formulates preliminary decisions in these meetings without their input. These decisions, they say, are then very difficult to change.

As a compromise DOE could, on a trial basis, invite states and tribes to participate in these meetings. While the meetings are opened on a trial basis, DOE could quantify the extra effort needed to open these meetings regularly and assess the benefits that can be obtained. DOE should also ensure that these meetings remain a forum for discussing preliminary decisions rather than becoming informational only. In short, we believe that DOE for the present should err on the side of more participation in

order to build its credibility in the eyes of the states and tribes and also in anticipation of further judicial and congressional review.

DOE could also increase its credibility with states, tribes, and others through the increased use of independent advisory groups to review or monitor the program. Without the involvement of such groups, states and tribes have to rely on DOE's judgment or assertions, which they distrust. DOE was hesitant in the early part of the program to use any advisory groups but now believes, as a result of NAS's role in the site recommendation process, that such groups may yield long-term benefits. NAS's role in developing DOE's decision-aiding methodology was initially well received by the states and tribes, although states and tribes were upset later when they were excluded from meetings and workshops between NAS and DOE. NAS's endorsement of the methodology could be a plus in ongoing court cases examining the siting process. DOE officials told us that they now are considering other ways to use independent experts in the program.

We believe that independent advisory groups could play an important role in the program. For example, during the upcoming site characterization process, such an organization could monitor DOE studies to ensure consistent analysis at each of the sites, review and comment on such studies, coordinate and monitor independent site characterization activities by states and tribes, advise DOE on steps to take should one or more sites be eliminated during site characterization, and devise a methodology to evaluate and rank sites remaining at the end of each phase. Meetings or discussions between any independent parties and DOE should be open to state and tribal participation.

Another mechanism that has the potential to alleviate some of the states' and tribes' concerns is the formal consultation and cooperation agreement as described in the act. While these agreements are not mandatory, they provide the clearest indication of what the Congress intended to be addressed while DOE interacts with affected states and tribes on the waste program. To date DOE has focused on finalizing broad, all-encompassing agreements. DOE has not yet been able to conclude an agreement because controversial issues, such as the amount of federal liability in case of an accident that is beyond DOE's control, have been raised. It appears likely that such issues may also keep it from completing agreements in the future. In addition, we believe that state and tribal leaders are and will be reluctant to sign formal agreements with DOE because they do not wish to be seen as cooperating with DOE concerning a nuclear waste repository.

In order to minimize the impact of controversial issues, DOE might adopt a strategy of pursuing incremental formal agreements across a range of issues with a state. Under such an approach, DOE and an individual state or tribe would formalize an agreement when one can be reached, leaving other more controversial issues to be addressed later. By doing so, areas of common agreement can be formalized and perhaps lead to useful negotiations on more controversial issues.

In addition to formalizing agreements, DOE could reduce one state and tribal concern by developing a better definition of consultation and cooperation. The act defines what should be included in a consultation and cooperation agreement but does not specify what consultation and cooperation consists of in absence of a formal agreement. DOE has laid out the broad-based objectives of its consultation and cooperation efforts in its Mission Plan but has not specifically defined consultation and cooperation. Many states and tribes told us that they have requested DOE to develop a clearer definition in order to better understand their roles. We believe that DOE could better define consultation and cooperation in the Mission Plan, which is periodically amended and reviewed by the Congress. The definition should include DOE's expectations of the states and tribes and lay out the roles of its various organizational entities. It could also be formulated with input from the states and tribes. Such a definition could provide all parties with a better basis for negotiation and interaction.

Recommendations to the Secretary of Energy

We recommend that the Secretary of Energy take steps to improve DOE's efforts to involve affected states and Indian tribes in the nuclear waste program and to enhance the overall credibility of the program. These include

- providing states and tribes access, at least on a trial basis, to all OCRWM coordinating group meetings;
- employing independent advisory groups during site characterization and other program activities;
- adopting a strategy of negotiating incremental agreements with the states and tribes in an effort to build a foundation for resolving controversial issues; and
- better defining consultation and cooperation in the Mission Plan.

Agency and Other Comments

We asked DOE, the six states,[1] and three tribes[2] affected by the first repository siting process; the 17 states affected by the second repository program;[3] and Tennessee, the state where the proposed MRS site would be located, to comment formally on a draft of this report. DOE, all of the six first repository states, and each of the three Indian tribes replied with formal comments, as did Tennessee and four states[4] associated with the second repository. This section reflects their views and our response, if appropriate. Technical and editorial comments have been incorporated throughout the report where appropriate. Because of the number and length of these comments, they have not been reproduced in this report but are available upon request.

DOE Comments

DOE commented that in most respects this was an exemplary report on a very important and controversial issue, and said that it concurs unreservedly with our recommendation that steps be taken to improve its efforts to involve affected states and tribes in the nuclear waste program. In addition, DOE concurred with each of the four steps we recommended, stating that in each case it was taking actions corresponding to the intent of the recommendation.

DOE agreed in principle with our recommendation to provide states and tribes access to coordinating group meetings and cited improved interaction as a result of the participation already provided in a limited number of the groups. In response to the recommendation to use independent third parties, DOE said it has already initiated discussions with NAS to secure its independent oversight of the site characterization phase of the program. DOE also concurred with the intent of our recommendation to adopt a strategy of negotiating incremental agreements with states and tribes and said that it would give the recommendation further review, while continuing to pursue the development of formal agreements in accordance with the act.

[1]Texas, Utah, Louisiana, Washington, Nevada, and Mississippi.

[2]The Confederated Tribes of the Umatilla Indian Reservation, the Yakima Indian Nation, and the Nez Perce Tribe.

[3]Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut, Pennsylvania, New York, New Jersey, Maryland, Virginia, North Carolina, South Carolina, Georgia, Minnesota, Wisconsin, and Michigan.

[4]Georgia, Vermont, Massachusetts, and South Carolina.

DOE also concurred with our recommendation to better define consultation and cooperation, but said that there may be a more appropriate vehicle than the Mission Plan for publishing an improved definition of consultation and cooperation. Although we recognize that other vehicles may be used to better define consultation and cooperation, we believe that such a definition should be incorporated in the Mission Plan because it is the master planning document for the nuclear waste program.

DOE stated that the report could be improved with a more complete presentation of its responsiveness in preparing an MRS proposal that reflected state and local views. That section of the report has been revised to reflect these actions. Other changes have been made throughout the report in response to a number of DOE's technical comments.

First Repository States and Tribes

The six states and three Indian tribes involved in the first repository stated that generally the report was an accurate presentation of the conditions that prevail between the states, tribes, and DOE, and with limited exceptions, they agreed with the recommendations. In some cases, however, states and tribes thought the report understated state and tribal concerns. For example, the representative from the state of Texas said that the report was factual and the recommendations "are relevant," while Nevada's representative agreed with the tenor of the report and said that the recommendations "have merit." Both representatives said, however, that we should criticize DOE more strongly for its views and actions and qualified their support for the use of third party advisory groups on the basis of states' and tribes' lack of participation throughout the NAS review of the decision-aiding methodology for site selection. Our report now makes it clear that while we recommend the use of independent third parties, we believe their activities should be open and that opportunity for full participation should be provided to states and tribes.

The three states where candidate sites were selected each emphasized DOE's lack of credibility and a need to "redo" the site selection process. The Texas representative stated that his state's position remains firm in that nothing short of starting the program over is an acceptable substitute for a technically sound, objective, and open decision process. Nevada's representative stated that although our recommendations have merit, the state is skeptical as to whether meaningful changes will occur in state interaction with DOE throughout the program. He believes

that DOE has "short circuited" the process of consultation and cooperation and that DOE is implementing a program that is flawed and will not result in the safe disposal of nuclear waste. A Washington State official also said that the most important action DOE could take to resolve states' and tribes' concerns would be to restart the siting process. The scope of our work was not directed toward examining DOE's siting program and, as a result, we did not address its validity. In addition, DOE's siting process is the focus of on-going litigation.

A Utah State official emphasized the adoption of an "effective standard" for the satisfaction of the Secretary of Energy's responsibility under the act to take state and tribal concerns into account to the maximum extent feasible. In that regard, the state complained that DOE has all too often used an "after-the-fact" review and comment procedure rather than allowing effective participation. A Mississippi representative had a similar complaint saying that DOE must stop viewing state and tribal participation as a necessary nuisance, while the Louisiana representative noted that some states have been able to maintain a positive relationship with the field offices but have been unable to establish such a relationship with DOE headquarters. We believe that our report adequately describes this concern and that our recommendations are directed toward ensuring more participatory management for the states and tribes.

Each of the affected Indian tribes provided formal comments on the report. The manager of the Nez Perce Indian Tribe nuclear waste program commented that the report is accurate in describing issues important to the Nez Perce tribe.

The representative of the Confederated Tribes of the Umatilla Indian Reservation commented that although our report was accurate, it inadequately expressed the unique concerns of the tribes. We have included these concerns in chapter 2. The representative also said the tribes were concerned that the coordinating groups would not remain a forum where early decisions are made after states and tribes are allowed to participate. He noted that where states and tribes have participated with these groups in the past, the nature of the group has changed. The representative also noted that the Umatillas have not heretofore initiated litigation against DOE because of a lack of funds. He indicated that if current litigation seeking such funding from DOE is successful, affected tribes will file lawsuits.

The Umatilla representative disagreed with our recommendation that would have DOE pursue a strategy of negotiating incremental formal agreements with states and tribes. He stated that an affected party has the most leverage with DOE before an agreement is signed. He is concerned that signing an agreement resolving "easy" issues would allow DOE to claim to the Congress that a formal agreement has been reached and that this would leave the affected party with little bargaining position. The Washington State representative also added that his lack of faith in DOE and its technical program makes it difficult if not impossible for states and tribes to begin negotiation of a written agreement.

We believe that our reasons for suggesting such a strategy remain valid. The Congress intended formal agreements to be the main mechanism directing state and tribal interaction with DOE. Formalizing less than "full scale" agreements would not relieve DOE of its continuing responsibility to interact with states and tribes and to address those areas that have not been formally agreed to. In addition, we continue to believe that progress on lesser issues may lead the way to more substantial understandings and agreements.

A Yakima Indian Nation official commented that while the report's four recommended steps would be useful, additional recognition should be made of "lost opportunities" DOE had for positive interaction. The text of his comments indicated that these lost opportunities occurred principally because DOE has not adequately defined consultation and cooperation and allowed full-scale participation. According to the Yakima representative, such participation would have alleviated problems such as the DOE decision to proceed with preliminary determination and the NAS review that took place without adequate state and tribal input. The Mississippi representative also commented that DOE, while better defining consultation and cooperation, should also define "full participation" rather than use vague terms that have been confusing to the state and tribes. We believe that our report, as revised by first repository state and tribal comments, adequately reflects these concerns and provides a recommendation to DOE—to better define consultation and cooperation—that will alleviate some of these concerns.

Second Repository States

Four states associated with the second repository program commented on our report. In general, they were complimentary of DOE's interaction with the states on the second repository. For example, the Massachusetts representative said that its participation in various DOE meetings was important to provide input into program issues.

The other states did criticize technical and/or administrative aspects of the program. A Georgia official was critical of DOE's failure to use all available information in its site screening process prior to postponement of siting activities. South Carolina and Vermont representatives criticized various administrative actions taken before second repository siting activities were postponed. These comments have been incorporated into the report where appropriate.

MRS Comments

A Tennessee State official generally concurred with the report's findings and endorsed its recommendations, but stated that the MRS discussion could be strengthened. He also asked why we did not contact Tennessee officials directly during the conduct of this job. We expanded the discussion on MRS state relations in response to Tennessee's and DOE's comments. We noted that although we did not contact the Tennessee representatives about this review, we had ongoing contact with them during the conduct of another review examining the MRS program. During the course of that review, we reviewed all relevant studies and correspondence. Thus, we believe we were able to adequately determine the nature of the DOE-Tennessee relationship throughout the MRS program.

Although the Tennessee representatives generally endorsed each of the recommendations, one official pointed out that his state's request to DOE for an independent review of the MRS facility site-selection process was rejected. He also emphasized that any definition of cooperation and consultation needs to include a requirement for a full discussion of the issues in time to affect the ultimate decision. Like many of the other states, he says this has not occurred between DOE and Tennessee.

GAO Reports on High-Level Radioactive Waste

Annual Reports

Department of Energy's Initial Efforts to Implement the Nuclear Waste Policy Act of 1982 (GAO/RCED-85-27, Jan. 10, 1985).

Nuclear Waste Policy Act: 1984 Implementation Status, Progress, and Problems (GAO/RCED-85-100, Sept. 30, 1985).

Quarterly Reports

Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of September 30, 1984 (GAO/RCED-85-42, Oct. 19, 1984).

Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of December 31, 1984 (GAO/RCED-85-65, Jan. 31, 1985).

Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of March 31, 1985 (GAO/RCED-85-116, Apr. 30, 1985).

Status of the Department of Energy's Implementation of the Nuclear Waste Policy Act of 1982 as of June 30, 1985 (GAO/RCED-85-156, July 31, 1985).

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Quarterly Report on DOE's Nuclear Waste Program as of March 31, 1986(GAO/RCED-86-154FS, Apr. 30, 1986).

Quarterly Report on DOE's Nuclear Waste Program as of June 30, 1986(GAO/RCED-86-206FS, Aug. 11, 1986).

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Other GAO Reports and Fact Sheets

Department of Energy's Program for Financial Assistance (GAO/RCED-86-4, Apr. 1, 1986).

Cost of DOE's Proposed Monitored Retrievable Storage Facility (GAO/RCED-86-198FS, Aug. 15, 1986).

Nuclear Waste: Monitored Retrievable Storage of Spent Nuclear Fuel (GAO/RCED-86-104FS, May 8, 1986).

Issues Concerning DOE's Postponement of Second Repository Siting Activities (GAO/RCED-86-200FS, Jul. 30, 1986).

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